CREDIT EXPANSION UNDER THE FEDERAL RESERVE

Undoubtedly the most important aspect of the work of the Federal Reserve Board has been its attempt to conserve the country's gold supply. With this problem it has been consistently occupied since the establishment of the new system. By one means or another it has endeavored to make the reserve banks the reservoirs into which should flow the gold supply of the country. And it cannot be denied that in this work it has achieved marked success. Today the gold holdings of the reserve banks exceed $1,700,000,000, an amount surpassing that of any other banking system in the world.

This concentration of gold has rendered possible an enormous expansion of bank credit. Gold lodged with reserve banks permits the several-fold extension of their book credits, which in turn comprise the reserves of member banks. Gold, therefore, when held by reserve banks, supports the greatest possible volume of credit. For counter money member banks now may effectively use federal reserve notes. These notes are secured by a minimum gold reserve of 40 per cent. Gold accumulated in reserve banks accordingly has a multiplied efficiency as reserve money. Furthermore, the amendment of June 21, 1917, greatly lowered the reserve requirements of member banks. The surplus gold holdings of the reserve banks alone are now sufficient to permit member banks to issue additional credits to an amount almost equivalent to the present deposit liabilities of national banks.

At the inception of the federal reserve system, machinery by which the board might gain control of any large amount of gold appeared to be lacking. It is true that upon the maturity of the commercial paper, on the basis of which the notes had been issued, gold or lawful money might be deposited with the federal reserve agent.[1] Such money collateral would obviate the necessity of depositing further paper or returning the notes. But inasmuch as this gold must correspond dollar for dollar to the amount of notes thus secured it was not believed that it would be deposited in any large amounts as "cover." Unlike the gold, the notes could not be counted as reserve money by reserve banks. Neither could the notes figure as reserve money to member banks. It was accordingly quite generally believed that member banks would speed-

[1] The member of each district board who is the medium of communication between the reserve bank and the Federal Reserve Board.

ily send in to the reserve banks these notes for redemption, and that the reserve banks would not voluntarily choose to keep them outstanding by depositing lawful money with the reserve agents.

But these opinions overlooked the fact that for cash payments to the general public the reserve notes were as good a currency as any, and that so long as their legal reserves were sufficient member banks would suffer no loss in holding these notes in their vaults. The reserve administration accordingly was able to go far in inducing member banks to accept the notes. On the maturity of the original commercial-paper collateral the reserve banks could keep the notes outstanding by depositing lawful money with their reserve agents. The extent to which this practice was carried out may be illustrated by the following figures chosen at approximately yearly intervals. On July 2, 1915, the total amount of notes issued to the reserve banks was $84,000,000. As security for these the federal reserve agents held lawful money to the amount of $70,000,000. By June 30, 1916, the amount of notes issued was $176,000,000. On this date $165,000,000 of the cover was lawful money. On June 29, 1917, $402,000,000 of the security for $550,000,000 notes was legal tender money. In substance, a large portion of the notes had become merely gold certificates.

The wisdom of this policy, however, did not pass unchallenged. The *Commercial and Financial Chronicle* condemned in no uncertain terms the practice by which the reserve notes were kept continuously outstanding; it argued that they should be retired on the maturity of their paper collateral, and that in keeping them out in circulation by encouraging deposits of gold the reserve board was usurping authority.[2]

No apology for this practice, however, was forthcoming from the reserve system's officials. As typical of their replies we may take that of Governor Strong of the New York district.[3] First, he denied that the securing of notes by gold exceeded authority granted by the act. If it had been intended that the notes should represent only commercial paper, a simple provision could have been inserted to that effect. The purpose of the act was clearly to render the notes a part of the general circulation, and the policy of the board was designed merely to hasten this result. Neither

[2] See *Commercial and Financial Chronicle,* August 7, 1915, pp. 398-400.

[3] *Ibid.,* pp. 412-413. The policy of securing notes by gold deposited with the reserve agent had been carried to the greatest extent in the New York district.

did he believe that the accumulation of gold in this way was inflationary. On the contrary it meant the restriction of bank credit. For neither by reserve nor member banks could the notes be counted as reserve money.

But indicative particularly of the board's belief that control of the country's gold should be vested under its management are the following remarks of Paul M. Warburg:[4]

> We are faced with the simple question: Will we be strong enough to share our plenty, during the coming period of stress, with other nations and be the world's banker, or will we be so weak that, when these demands come, we must stop them at once by raising our discount rates high enough to retain our gold at home? Keep all the gold in your vaults, gentlemen, where it is useless for yourselves and deprived of the additional force that it may gain in the hands of the federal reserve banks; keep every cash-till in hotels, railroad stations, dry-goods stores and what not, filled with gold certificates, and you will rob the country of its legitimate opportunity of growth, of helping itself, and of helping the world. Our foreign competitors will proclaim that only a country willing to part freely with its gold may safely be accepted as a world's banker, and they will point to the fact that in past critical periods, our banks stopped paying in gold. It is our duty to give to the world an overwhelming evidence of our ability and determination in the future to maintain our gold obligations under any and all circumstances.

It is therefore interesting to note a letter sent by the board on September 11, 1916, to the various reserve banks. The occasion was the issue of gold certificates by a reserve bank to supply the currency needs of its member institutions. Such a currency could be obtained a little cheaper than federal reserve notes. The board, however, expressed the hope that the reserve banks would not be influenced henceforth by the desire to save a small expense, and that whenever possible they would issue federal reserve notes, "thereby helping to concentrate gold certificates in the vaults of the federal reserve banks."[5]

The depositing of gold as the security for note issues would not, up to a certain point, render necessary any restriction of bank credit. Member banks could use the notes for cash payments quite as effectively as gold certificates, and some state banks could

[4] See address delivered before the American Bankers Association at Kansas City, *Journal of the American Bankers Association,* Oct., 1916, pp. 307-319. For quotation see pages 313-314.

Cf., also address by Dr. A. C. Miller, also a member of the board, delivered before the Indiana Bankers Association, *Ibid.*, Nov., 1916, pp. 385-390.

[5] See *Federal Reserve Bulletin,* Oct., 1916, p. 512.

count these notes as reserve money. Only when they should exceed the desired amount of till money need a bank deem them inferior to gold certificates. The principal limitation upon their reissue (the provision that the notes of one reserve bank could not be paid out by another reserve bank) concerned only the reserve banks. A member bank, however, could use for counter money the notes of any reserve bank. It need have no fears of becoming overstocked with the notes. If it found itself in need of reserve money it could quickly dispatch them to its own reserve bank and obtain gold or book credits, either of which would increase its reserve. The reserve board was accordingly able to go far in inducing reserve banks to deposit gold as a cover for the notes.

Nevertheless the notes must become unacceptable when issued in amounts exceeding the need of member banks for money with which to make cash payments. Any excess issues would be sent in to the reserve banks for redemption. With the possibilities of note issues thus restricted so also was the power of the board to draw in gold. Accordingly relief was sought by means of an amendment to the original act which became law on September 7, 1916. As regards reserves this amendment provided that:

> Upon the affirmative vote of not less than five of its members the Federal Reserve Board shall have power, from time to time, by general ruling covering all districts alike, to permit member banks to carry in the Federal Reserve Banks of their respective districts any portion of their reserves now required by section nineteen of this Act to be held in their own vaults.[6]

This amendment did much to render the notes more acceptable, and accordingly increased the power of the reserve banks to draw in gold. Thereafter a member bank holding sufficient book credits with its reserve bank need not worry about the kind of money held in its own vaults. For circulation purposes the notes would be as good as gold.

But even with the law thus amended a member bank with surplus reserve would secure no outright advantage by shifting its reserve money entirely to a reserve bank. Such a course would not increase its loaning power. If it did not yield to the desire of the board it might still retain its gold, and this would subject it

[6] See *Federal Reserve Bulletin,* Sept., 1916, p. 439. The board immediately ruled (Sept. 18, 1916) that until further notice "any member bank so desiring shall be permitted to carry in the Federal Reserve Bank of its district any portion of its reserves now required by law to be held in its own vaults." *Ibid.,* Oct., 1916, p. 508.

to no direct disadvantage. The reserve administration accordingly pressed its demands for a further amendment and on June 21, 1917, their proposed amendment became law. It rendered compulsory what previously had been left to the discretion of the banks. Thereafter member banks must hold their entire legal reserves on deposit with reserve banks. In other words, the only legal reserves would be credits with the reserve banks. The amount of till money would depend on the judgment of each member bank. For till money, however, the reserve notes would be as good as gold.

Since this amendment the credits member banks are required to hold with reserve banks have been as follows:

	For demand deposits (*Per cent*)	For time deposits (*Per cent*)
Banks in central reserve cities.........	13	3
Banks in reserve cities.................	10	3
Banks in all other cities...............	7	3

These changes render gold and legal tender money in reserve banks extremely efficient in furnishing a basis for member banks' deposit credits. Taking into consideration demand deposits only, and assuming no till money to be necessary, $1,000 of deposit credits extended by a country bank may rest upon $24.50 of lawful money in the possession of the reserve bank; for the member country bank might grant $1,000 of deposit credits for every $70 of book credits held with its reserve bank. Behind this $70 of book credits the reserve bank need maintain only a 35 per cent reserve of lawful money, and 35 per cent of $70 is $24.50. The redepositing of its reserve thus permits a country bank to grant deposit credits so long as the actual legal tender reserve exceeds 2.5 per cent. In other words, a dollar of legal tender currency lodged with a reserve bank enables a country bank to extend $40 of deposit credits. Under the old national banking system the utmost that could be done was to pyramid thirteen bank dollars upon one dollar of reserve money.[7]

[7] *Cf.* H. J. Davenport, *Economics of Enterprise*, p. 262. Fifteen per cent of $1,000 = $150. Of this, $90 might be deposited with a reserve city bank where the required reserve was 25 per cent. Twenty-five per cent of $90 = $22.50. Of this, $11.25 might be redeposited with a central reserve city where a straight 25 per cent reserve must be maintained. Twenty-five per cent of $11.25 = $2.81. $60 + $11.25 + $2.81 = $74.06, and $1,000 ÷ 74.06 = 13+.

In other cities this amendment renders possible a still greater economy of reserve money. Under the old system the actual legal tender reserve for reserve city banks must be at least 15.6 per cent.[8] Now it may be only 3.5 per cent.[9] In central reserve cities, under the old system, a straight 25 per cent reserve was required. Since the amendment the minimum may be only 4.55 per cent.[10]

All this takes no account, however, of the need for till money. This, even if not fixed by law, must be added to obtain member banks' real cash reserves. Assuming average requirements for counter money to be 5 per cent and that this be composed entirely of federal reserve notes, against which a 40 per cent gold reserve must be maintained, 2 per cent must be added to the percentages noted above. But even with this addition made, the economy in the use of the country's gold and the possibility of expanding further the deposit credits of our banks is enormous. We have indeed drawn close to the English system wherein bank reserves consist largely of book credits granted by the Bank of England. But the English system is a product of slow development; whereas ours is one of sudden change. At no other time in history have there been freed, virtually on the moment, such masses of gold to furnish the basis for the manufacture of a still greater volume of credit dollars.

Particularly important in all this has been the federal reserve note. Without it a larger portion of the nation's currency must needs be held in the member banks' own vaults, thus lessening the amount of legal tenders available for the reserves of reserve banks.

After reaching a certain volume, however, further issues of notes must restrict the ability of reserve banks to grant deposit credits. Gold counted as a part of the reserve for notes could not be counted as a part of the reserve for deposits. Nevertheless, the amendment of June 21, 1917, paved the way for a still greater expansion of bank credits. Before that time lawful money

[8] $\frac{25}{100} \times \$1{,}000 = \$250$. Of this, \$125 might be deposited with a reserve city bank. $\$125 + \frac{25}{100} \times 125 = \$156$.

[9] $\frac{10}{100} \times \$1{,}000 \times \frac{35}{100} = \$35$.

[10] $\frac{13}{100} \times \$1{,}000 \times \frac{35}{100} = \$45.50$.

deposited with the reserve agent as cover must equal the amount of the notes. Such a procedure must, therefore, lessen the reserve for deposits. But this amendment provided that gold deposited as cover might be counted as a part of the reserve banks' 40 per cent note reserve. In case the gold reserve should be sufficient, notes could be kept out merely by depositing additional collateral with the reserve agent. In this way the reserve banks' gold could be made to support a larger volume of notes, and the limit further removed at which note issues would restrict the ability of reserve banks to grant book credits to member banks.

From the foregoing the inference may have been drawn that the federal reserve notes may be used for any counter money purpose. This, however, is not strictly true. By law they can not be issued in denominations under $5. They can only serve, therefore, for the larger units, and of these there are several other forms of currency. But, on October 5, 1917, an act was passed which was designed to create a larger field for the circulation of the notes. To quote the *Federal Reserve Bulletin* on this matter:[11]

> The passage of the act of October 5, 1917, authorizing national banks to issue not more than $25,000 each in denominations of $1 and $2 and authorizing them to issue notes of $5 on the same basis as other denominations is intended to provide a larger volume of small bills. The Treasury Department, as is well known, has for some time past been converting large greenbacks or United States notes into notes of small denominations, thereby probably finding a permanent field of circulation for them. As the greenbacks thus move out of the larger and into the small denominations, an increasing field for Federal Reserve notes is opened. The Treasury, Federal Reserve Board, and the Federal Reserve Banks are consistently cooperating in substituting Federal Reserve notes for the circulation of gold certificates, and they are effectively supported in this undertaking by the national banks and those of the state banks and trust companies which have joined the system.

By these various devices notes have displaced a continually increasing volume of other forms of money, which money in turn has been drawn into the reserve banks, where it may be used so effectively in supporting bank credit. It is evident, however, that this process must be impeded so long as the great majority of state banks remain outside the system. By May 1, 1917, fewer than fifty out of eight or nine thousand eligible state banks and trust companies had become members.[12] But one section of the

[11] *Federal Reserve Bulletin,* Nov., 1917, pp. 833-834.

[12] See *Federal Reserve Bulletin,* May, 1917, p. 335.

amendment of June 5, 1917, was devoted to new regulations, designed, so far as deemed consistent with safe banking, to lessen the objections of these institutions to membership. "As the law now stands it leaves member state banks and trust companies practically undisturbed in the exercise of all the banking powers conferred upon them by the States. The law [as amended] provides also in definite terms the conditions upon which any state bank or trust company may withdraw from the system."[13] Whether it be due to the changed terms of the act or to the belief that "membership in the Federal Reserve system is a distinct and significant evidence of patriotism,"[14] applications for admission immediately increased. By Jan. 31, 1918, 296 state institutions, with total resources of more than five billions of dollars, had become members.[15] It seems only reasonable, therefore, to expect the list of member state institutions to increase steadily henceforth. Inasmuch as the reserve requirements will be the same as for member national banks, the field is greatly increased within which the federal reserve notes may circulate, and from which the reserve banks may draw a larger and larger proportion of the country's gold.

In these ways the ability of the reserve banks to finance the credit requirements of the member institutions has been steadily growing. To what extent, we may now ask, has this power been utilized? The following table will serve to indicate the last calendar year's increase in note issues, the gold holdings of the reserve agents, and deposits credited to member banks. It also indicates the kind of collateral held by the reserve agents as security for the federal reserve note issue. The figures are for the last available date in each month and are given in millions of dollars, *i.e.*, 000,000 omitted (p. 278).

These figures show that in the course of the year note issues were quadrupled, gold holdings of reserve agents increased two and a half fold, and member bank deposits (the legal reserves of member banks after the amendment of June 21)[16] more than doubled. Bearing in mind that each dollar of deposits with a reserve bank has been rendered much more efficacious in supporting member banks' deposit liabilities, that the notes have occupied a larger

[13] Statement of President Wilson made public through the Federal Reserve Board. See *Federal Reserve Bulletin,* Nov., 1917, pp. 827-828.

[14] *Ibid.,* p. 828.

[15] See *Federal Reserve Bulletin,* Feb. 1, 1918, p. 92.

[16] The final transfer of reserves was complete July 20, 1917.

Date	Federal reserve notes in actual circulation	Gold deposited with federal reserve agents	Commercial paper delivered to federal reserve agents	Member bank deposits
1917				
Jan. 26	259	273	19	687
Feb. 23	303	306	28	692
March 30	357	360	23	720
April 27	420	422	25	719
May 25	454	456	32	813
June 29	508	402	153	1,033
July 27	534	434	170	1,135
Aug. 31	587	493	156	1,069
Sept. 28	700	558	204	1,136
Oct. 26	847	614	303	1,264
Nov. 30	1,056	661	490	1,489
Dec. 21	1,227	746	602	1,389

and larger part of the till money reserves of member banks, it is unnecessary to conjecture further regarding the causes of that expansion of credit which added more than a billion and a half dollars to national bank deposits in a little over two months.[17]

All this, moreover, has taken place in such a way as by no means to eliminate possibilities of further expansion. On June 20, 1917, the national banks of the country possessed surplus reserves of $842,000,000, an increase of $41,000,000 over June 30, 1916. "On June 20, 1917, the central reserve cities held 19.7 per cent of reserve against a required reserve of 18 per cent. Other reserve cities held 22.45 per cent against a requirement of 15 per cent, while the country banks, which were only required to carry 12 per cent, held on June 20, 1917, a reserve of 25.33 per cent of their net deposits."[18] Thus the amendment of June 21, 1917, lowering reserves was enacted at a time when reserves were already high.

But precisely how large are the surplus reserves of the reserve banks, and how much further expansion of bank credit may these surplus reserves render possible? Some indication should be furnished by the following paragraphs. The date chosen for these estimates is November 23, 1917; since November 20, 1917, is the latest date on which we have figures for the total deposits of

[17] Deposits of national banks on November 20, 1917, were $14,798 million. This was an increase of $1,564 million over September 11, 1917, and an increase as compared with November 17, 1916, of $2,309 million. See *Federal Reserve Bulletin,* Feb., 1918, pp. 90-91.

[18] Announcement of the Comptroller of the Currency, Aug. 1, 1917. See *Federal Reserve Bulletin,* Sept., 1917, p. 666.

national banks. All figures are given in thousands, *i.e.*, 000 omitted.

1. Gold reserve for federal reserve notes.

On November 23, 1917, the gold reserve for note issues totalled \$635,497 (\$623,948 deposited with the reserve agents plus \$11,549 in the gold redemption fund).

On this date the notes in actual circulation totalled \$1,051,892.

The actual gold reserve was $\frac{635{,}497}{1{,}015{,}892}$ or 62.5 per cent. The minimum 40 per cent required would be \$406,356.

The excess reserve for notes was \$635,497 less \$406,356 or \$229,140.

2. Possibilities of further note expansion.

Supposing the excess reserve for notes to be used to support the maximum value of notes, a further note issue is possible of $2\frac{1}{2}$ times \$229,140 or \$572,850.

3. Reserve for member bank deposits.

On November 23, 1917, the net deposits of all the reserve banks totalled \$1,546,122; computed as follows:

Government deposits	\$196,411	
Due to members (reserve account)	1,426,648	
Due to non-members (clearing account)	22,291	
Collection items	215,169	
Total gross deposits		\$1,860,519
Due from other reserve banks, net	\$11,872	
Uncollected items	302,525	
Total deductions		314,397
Net deposits		\$1,546,122

The gold reserve for net deposits totalled \$969,207, as follows:

Gold coin and certificates in vault	\$530,045
Gold settlement fund	385,662
Gold with foreign agencies	52,500
Total	\$969,207

The gold reserve for deposits was $\frac{969{,}207}{1{,}546{,}122}$ or 62.6 per cent.

The total lawful money reserve for deposits (gold reserve plus legal tender notes, silver, etc.) was \$969,207 plus \$54,058 or	\$1,023,265
The lawful money reserve required (35 per cent minimum) would be	541,142
The surplus reserve for deposits was	\$482,123

4. Possibilities of further expansion of deposit credits of reserve banks.

Supposing the surplus reserve for deposits to be used to support the maximum volume of member bank deposits, an increase in these is possible of $\frac{100}{35}$ times \$482,123 or \$1,377,494. This represents a potential increase of more than 95 per cent. (Member bank deposits with reserve banks on November 23 equalled \$1,426,000.)

5. Possibilities of further expansion in deposit liabilities of member banks.

Supposing that the required reserve for member banks averages 10 per cent, and that the \$1,377,494 should be used to the maximum amount to support their deposit grants to the public, an increase in these is possible of to 10 times \$1,377,494 or \$13,774,940. This represents a potential expansion of more than 90 per cent. (Total deposit liabilities of national banks on November 20 were \$14,798,000.) An increase of note issues by \$572,850 would probably furnish all the till money necessary to support the \$13,774,940 of bank deposits.

Such are the possibilities of expansion on the basis of the surplus gold of the reserve banks alone. In view of the huge surplus reserves in the vaults of member banks an expansion of much more than 100 per cent of national bank deposits is possible.

The reserve board has achieved notable success, therefore, in its endeavors to accumulate the country's gold in the vaults of the reserve banks. Thereby it has assumed the greatest of public responsibilities. For by its rediscount operations it controls the time, the circumstances, and accordingly the industries which shall benefit by this added supply of bank credit. It must choose between conflicting claims.

To what purposes, then, should the reserve banks' surplus gold be put? Should it be used at the present time to enable member banks to increase their loans to the business public, or should it be carefully husbanded to meet post-bellum requirements? Now is the time when this question of policy must be met squarely. The board that controls the largest surplus stock of gold the country has ever held surely ought not to content itself with mere day-today decisions. Let the maximum amount of credit be extended today and heightened commodity prices will render this gold unavailable for later purposes. More bank loans, and consequently more gold, will be needed to finance the same volume of transactions. Deflation can take place only slowly and gradually and with resultant depression to business.

In the minds of the great majority of the people the board can make but one choice. We are reminded that the present need for funds exceeds that of any previous period, that the gravity of the

war situation demands that every possible dollar be used to meet existing requirements regardless of any opportunities to come. National defense, we are told, supersedes all future trade advantages. By liberal offer of its credit the board should quicken, therefore, the course of present industry. If inflated prices result, these must be accepted as part of our sacrifice to the cause of democracy.

Each day, however, the fallacy of this view grows more obvious. It is becoming clear that the production of war supplies is fundamentally not a problem of securing dollars, but rather one of commandeering labor and materials. The real problem of war finance is to shift labor and equipment with the least possible delay from the unessential to the necessary war industries. No matter what financial program is adopted, it is clear that only by restricting the operations of the non-war industries can there be the largest possible increase in the production of military supplies. The stream of purchasing power that ordinarily flows to the one must in large measure be transferred to the other. The quickest transition can take place, not by increasing the total volume of bank dollars, but by diverting dollars from former fields of expenditures. The funds for financing war industries and activities should be obtained in largest part from the existing volume of money and credit.

In the last analysis the real gain from economizing our gold does not arise from an internal expansion of credit. By virtue of price adjustment domestic industry can accommodate itself either to a large or to a small volume of bank credit. The advantage of refining our credit system results rather from foreign-trade operations. To support our credit structure with less gold releases the surplus for foreign purchases, virtually enabling us to obtain the products of foreign industry without the expenditure of labor or the sacrifice of material on our part. To the extent, therefore, that foreign countries are not in a position to sell to us today, our surplus gold should be retained for post-bellum needs. In the measure that we use this gold at the present time to support domestic loans, and thereby inflate the general level of prices, we lose our power to reap the final and ultimate gains.

After the war the demands for our gold will be legion. Vast issues of bank and government paper have rendered the gold standard virtually inoperative in European belligerent nations.

The extent of the decline in their exchange rates can be explained only as resulting from the inability of those countries to pay out gold freely. Before the war broke out the gold reserve of the Bank of England was more than 50 per cent. Today it is less than 18 per cent. If European nations undertake the task of restoring the gold standard the need for our gold will be very urgent. If our banks are then in position to finance their requirements America may secure its position as the world's banker and establish the dollar exchange on a firm and permanent basis. Oriental and South American countries may continue to find in New York the credits for their international operations. In short, a position of world-wide financial supremacy awaits us if we are not now seduced to a policy of inflation.

The present financial situation is most critical. We have more gold than we ever had before, far more than suffices for any present needs. Only disadvantages are to be reaped in using it today; limitless opportunities await us in saving it for future needs.

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